

Scope of Claim

1. A flat valve device comprising:
a nearly ring-shaped circular frame member to be mounted on the opening of a gas-containing structure filled with the gas therein; and
a round body member to be mounted on the inner peripheral surface of the circular frame member; and
a valve provided inside the round body member,
said circular frame member having a female thread part for cover rotation to removably secure said round body member to the inner peripheral surface thereof,
said round body member having a male thread part for cover rotation to be screwed to said female thread part for cover rotation on the outer peripheral surface thereof, and having a valve accommodating space therein to accommodate said valve, from which an outward-facing through hole and an inward-facing through hole are provided so as to pass through said gas-containing structure outwardly and inwardly, respectively,
said valve having a sealing cover to be inserted into said outward-facing through hole for maintaining an airproof state, and an energizing member which normally energizes the sealing cover toward said outward-facing through hole,
said round body member having a circular recess facing the surface with the outward-facing through hole, and a rotating cover to be pressed onto the bottom surface of said circular recess by rotation,
said outward-facing through hole being prepared off the center of said circular recess,
said rotating cover having a gas injection hole for gas injection so as to have the degree of eccentricity identical to that of said outward-facing through hole.
2. The flat valve device set forth in Claim 1, wherein:
a female thread part for cover rotation is provided on the inner peripheral surface of said circular recess, and a male thread part for cover rotation to be screwed thereto is given on the outer peripheral surface of said rotating cover.
3. The flat valve device set forth in Claim 2, wherein:
said circular recess has a higher height than that of the rotating cover, and on the inner peripheral surface of said circular recess, a part for preventing cover removal projects out over said rotating cover to prevent the removal of said rotating cover.
4. The flat valve device set forth in Claim 3, wherein:
the gas injection hole is positioned so as to connect through the outward-facing through hole, when said rotating cover is screwed to the female thread part for cover rotation to abut on the part for preventing cover removal.
5. The flat valve device set forth in Claim 1, wherein:

a part for preventing cover removal is provided over said rotating cover, and the under surface of which includes a cover pressing part, and a pressure receiving part is provided on the upper surface of said rotating cover opposite the cover pressing part, whereby said cover pressing part will press said pressure receiving part downwardly when said rotating cover is rotated.

6. The flat valve device set forth in any one of Claims 1 through 5, wherein: said gas injection hole is positioned so as not to connect through the outward-facing through hole at the time the rotating cover is pressed onto the bottom surface of the circular recess.